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IRONMAN

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THE PURPOSE-DRIVEN SET

The Grip's favourite sets for increasing endurance, improving speed variation, honing technique and developing open-water skills. **BY MARK ALLEN**

I was brought up swimming competitively. From the time I was 10 until I finished college at 22 I swam ... and swam ... and swam. Getting in 7 000 to 9 000 metres per day was not unusual, and although it is a lot more than I ever did as a triathlete, that doesn't come close to the stratospheric volume of someone like Michael Phelps. I spent up to four hours a day in the water to get ready for events that took less than two minutes to complete. Imagine if that ratio were needed for cycling and running – there wouldn't be enough daylight hours to train.

So what's the difference? Why do we put in so much volume for relatively short races in the water? How is it that in running you can complete a marathon at a very high level without ever running 42km in training? There are many answers, but here are three of them. First, running, and to a lesser extent cycling, are both weight bearing, and the physiological adaptation that happens from training happens faster when we have to hold our own weight during the exercise.

A second reason has to do with the size of the muscle groups that are used. Both cycling and running are mostly legs: quads, hamstrings, calf muscles and glutes. Those are all powerhouse muscles. Swimming uses mostly the smaller upper body muscles, and if done correctly, during freestyle a huge amount of the speed is actually generated from rotational torque around the body's core. Using those muscles does not stimulate the same overall fitness gains per minute of exercise as the larger lower body muscles do when used in weight-bearing exercise. So to approach your peak potential fitness, you have to spend more time training for swimming relative to the actual race distance.

Another reason is that because there is basically no impact or pounding, you



can recover from large volumes of swim training. Three to four hours per day is routine for most serious swimmers, but I don't know more than a handful of runners who could manage that much training time without total and complete breakdown.

With that in mind, you might ask what type of swim workouts are going to be enough for your triathlons. If one person swims more than three hours per day to race two minutes, how much training do you need to race 3.8km in an IRONMAN? If you went with the same ratios, you'd be in the pool for 90 hours a day.

ENDURANCE

This is the core physiology that must be built into your training to get you through your swim in a triathlon. If you're training for a sprint-distance triathlon, you should try to build up to doing one long workout of approximately 1 829 metres. This goes up to 2 743 metres for an Olympic-distance race, 3 657 for a half-IRONMAN and at least 4 572 for a full.

You can see that for each distance, the goal is to get used to swimming further than you will need to on race day. The reason for this goes back to the smaller adaptive response that time in the water stimulates. Doing just a bit more than your race distance will give you the fitness to do more than just make it through the swim. It will afford you some cushion so you can not only go fast in the water, but also come out of the water relatively fresh. Setting up a great bike ride is critically dependent on this.

Here is an example of what I think is a great endurance-building swim workout. It's based on someone targeting an IRONMAN. If your goal race is shorter, you can easily cut some of the volume out of the sets to be more in line with your race distance.

WARM-UP: 200 easy, 4 × 50 on 30 seconds rest, building your speed within each 50.

MAIN SET:
 • 6 × 600 swim on 45 seconds rest. Try to have the second three 600s be faster than the first three. Rest two minutes after this set.
 • 6 × 150 on 30 seconds rest, broken at the 100 for 10 seconds (100 fast/50 easy).

WARM DOWN: 200 easy
TOTAL DISTANCE: 5 100

This is a bread-and-butter, no-frills distance workout. It affords you long enough swims in the main set that you will gain lots of endurance and fitness, but is short enough that it is relatively easy to vary your pace and get faster as the set progresses. Sometimes in longer steady swims you get into a set pace and it can become very hard to break out of it. One of the things you are trying to pattern into your repertoire is the ability to vary your pace, and ideally to vary it so that you get faster as the swim progresses in your race. Every long set like this provides an opportunity to do just that.

If you have difficulty getting faster as you go, or if your endurance is just not at a point right now where you can go faster in the second half of that main set, try this variation on the same workout:

WARM-UP: 200 easy, 4 × 50 on 30 seconds rest. Build your speed within each 50.

MAIN SET:
 • 6 × 600 on 45 seconds rest. Swim the first two 600s straight. For the second two, stop at the 300 for a rest of 15 seconds. For the final two, stop at the end of each 200 for a rest of 10 seconds. Rest two minutes after this set.
 • 6 × 150 on 30 seconds rest, broken at the 100 for 10 seconds (100 fast/50 easy).

WARM DOWN: 200 easy
TOTAL DISTANCE: 5 100

A final variation on this workout is this one. It's a way for someone who may not have much upper-body strength to build swim-specific strength.

WARM-UP: 200 easy, 4 × 50 on 30 seconds rest. Build your speed within each 50.

MAIN SET:
 • 6 × 600 swim on 45 seconds rest. Swim the first two 600s straight. For the second two, put on your paddles and pull buoy. Stop at the 300 for 20 seconds. For the final two, take the paddles and pull buoy off and stop at the end of each 100 for a rest of 15 seconds. During these final two broken 600s, really focus on increasing your arm turnover rate and overall speed on each 100. The speed you do these should be 5-10

seconds per 100 faster than you did in the straight 600 swims at the beginning of the set. Rest two minutes after this set.

• 6 × 150 on 30 seconds rest, broken at the 100 for 10 seconds (100 fast/50 easy).

WARM DOWN: 200 easy
TOTAL DISTANCE: 5 100

SPEED VARIATION

We've all seen how the start of a race can be hectic and potentially the fastest segment of your swim. It's easy to tell yourself that you'll start conservatively and then build over the swim course, which is indeed ideal. But race nerves and competitive excitement just seem to turn off most people's ability to regulate pace in the opening moments of a triathlon. Here is a workout that will help you to be ready to go fast initially and then settle into a steady pace.

WARM-UP: 200 easy swim, 600 pull, 4 × 50 kick on 20 seconds rest, 4 × 50 swim on 20 seconds rest.

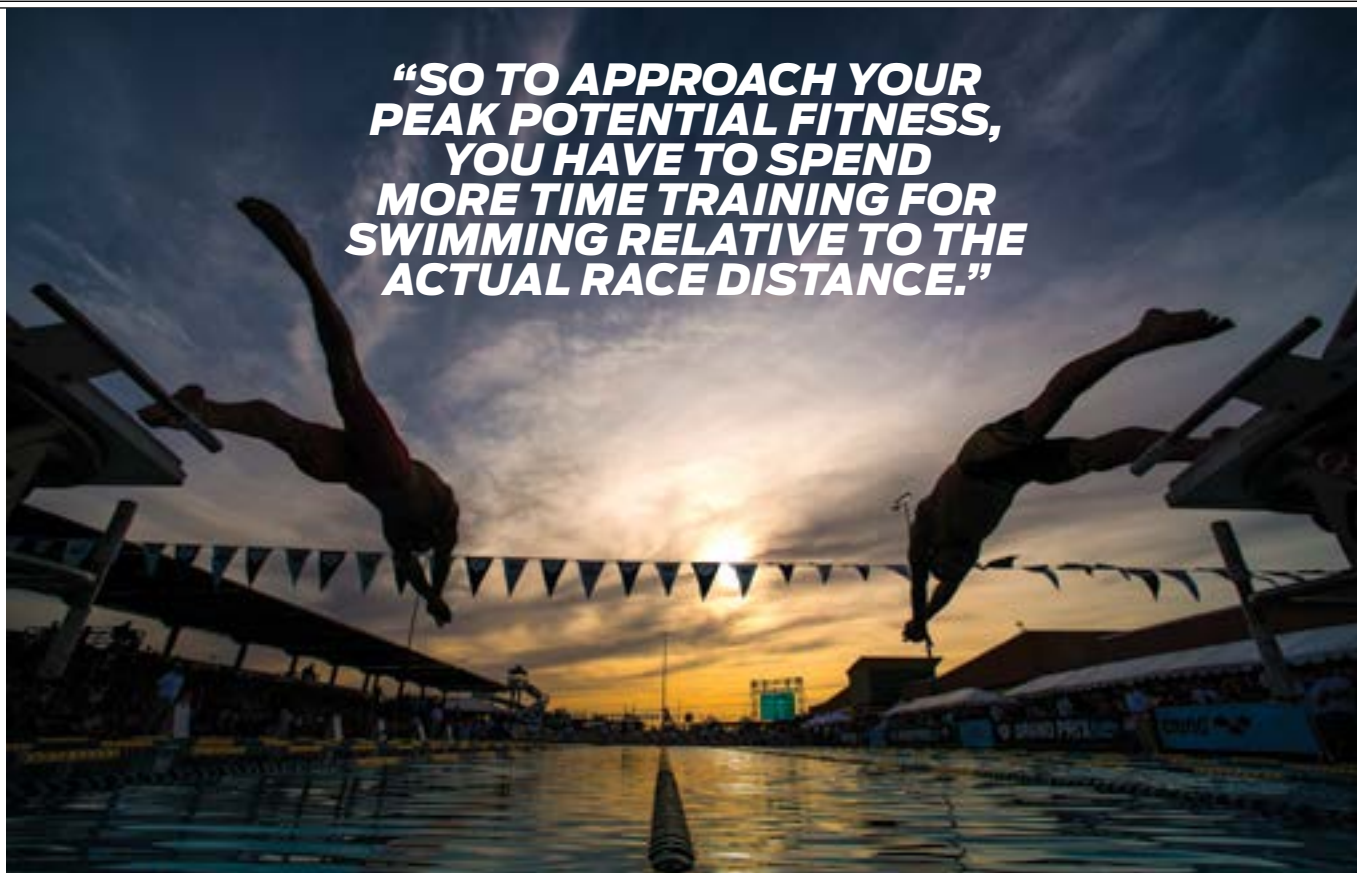
MAIN SET:
 • 4 × 100 fast on 20 seconds rest, 1 × 400 steady on 45 seconds rest, 4 × 100 fast on 30 seconds rest, 1 × 300 steady on 30 seconds rest, 4 × 100 fast on 10 seconds rest, one-minute rest, 3 × 50 fast on 45 seconds rest, 1 × 300 steady on 30 seconds rest, 3 × 50 fast on 45 seconds rest.

WARM DOWN: 500 easy.
TOTAL DISTANCE: 4 000

The goal of this particular workout is to have the 100s and the 50s be significantly faster than the pace you hold during the steady swims. The speed on your steady swims should be around race pace. By starting and ending with short, fast swims, this will increase your ability to vary your pace in a race. Having several sets of 100s bracketed by steady-state swims will also enable you to vary your speed in the middle of the race. There could be a situation where you need to accelerate to get close enough to a pair of feet ahead of you or to get into a good position before a turn buoy.

This workout is also excellent for those who swim the same pace regardless of the swim distance. Some people will be just about the same per hundred regardless

“SO TO APPROACH YOUR PEAK POTENTIAL FITNESS, YOU HAVE TO SPEND MORE TIME TRAINING FOR SWIMMING RELATIVE TO THE ACTUAL RACE DISTANCE.”



of whether it's a set of 100s or a 1 000 straight. If you still find that you are not swimming the 100s 5-10 seconds per hundred faster than the steady swims, try this version of the same workout:

WARM-UP: 200 easy swim, 600 pull, 4 × 50 kick on 20 seconds rest, 4 × 50 swim on 20 seconds rest.

MAIN SET:

· 4 × 100 fast on 45 seconds rest, 1 × 400 steady on 75 seconds rest, 4 × 100 fast on 45 seconds rest, 1 × 300 steady on 60 seconds rest, 4 × 100 fast on 20 seconds rest, one-minute rest, 3 × 50 fast on 45 seconds rest, 1 × 300 steady on 45 seconds rest, 3 × 50 fast on 45 seconds rest.

WARM DOWN: 500 easy.

TOTAL DISTANCE: 4 000

The rest intervals have been extended slightly, which affords you more recovery between each swim. This will enable you to push your pace more on the faster short sets and still recover for the steady-state swims.

TECHNIQUE

There's one school of thought regarding how to improve best as a swimmer that says you should only continue a workout if you can maintain good form. The theory is that if you keep slogging out

the laps after your mechanics deteriorate, you would begin to pattern an inefficient stroke into your muscle and neurological system. The idea is that it's best to swim the scheduled workout only up to the point where you might begin to lose good stroke mechanics. Once that fails, time to hop out of the water regardless of where you are in your scheduled session.

Here's a quick bonus set that you can add into the beginning of any workout to promote and maintain proper form: 5 × 50 "fist" drill on 20 seconds rest, 5 × 100 on 20 seconds rest with normal hands.

What's the fist drill? Simple – make a fist! Why is this single drill so effective in generating good stroke mechanics? If you take your palm and fingers out of your stroke, you cannot move through the water if you are leading with your elbow rather than your entire forearm. With a fist you cannot generate force if you are slapping the water like a windmill and have a ton of bubbles on your hand because of how you enter the water. You will have to regain the propulsion lost without your fingers and palm by learning how to rotate at the hips to create force in the pull phase of your stroke. It's simple and it's effective. Do this at the beginning of every workout and experience the difference in how you improve your feel of the water and the changes that take place in your stroke once you open your hands back up.

OPEN-WATER SKILLS

Steady, nonstop swimming in a lake, river or ocean can present some challenges to those who do not have experience with open water. There are no lane lines to keep you swimming straight and no wall every 25 or 50 metres to give you a very short rest with each turn.

The best way to practice sighting and get used to uninterrupted swimming without turns is indeed to do some of your swim workouts in open water. If you have the luxury, take advantage of it and try to get in at least one session per week in the open water. Practice how you will look up to see buoys or landmarks that enable you to swim straight. Let your body (mostly your lower back) adapt to not curling up every lap like when you do a flip turn. Work on breathing on both sides as a way to swim straighter and to help keep both sides of your body and neck loose.

If you don't have easy access to safe open water, you can still practice how you will look up to see where you are going in a pool. Figure out the part of your stroke when you will take a glance forward so that you can do it without stopping dead in the water. This is a lot more effective in a 50-metre pool. Also, use your wetsuit sometimes if that is going to be called for on race day. Learning to become comfortable and relaxed in your wetsuit can be crucial come race day. ⚙️